

PT 06062WOUS / Voith Siemens Hydro Power Generation GmbH &amp; Co. KG / DRW/RA/2005006567 / June 13. 2005

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## Claims

1. Water - turbine or – pump or – pump turbine comprising a runner (1.1) with a plurality of runner vanes as well as with a hub (1.3);
  - 5 1.2 with a housing, comprising a guide device for adjusting the flow of water into the runner (1.1);
  - 1.3 with a suction pipe (4) for guiding the water flowing out of the runner, the suction pipe (4) comprising an inlet portion; characterized by the following features:
    - 10 1.4 in the suction pipe (4) there is provided an elongated displacement body (5);
    - 1.5 the upstream end of the displacement body (5) is located in the vicinity of the hub (1.3) of runner (1)
- 15 2. Turbine or pump according to claim 1, characterized in that the distance between hub 1.3 of runner (1) and the upstream end (5.1) of displacement body 5 is between 0.5 and 50 mm.
- 20 3. Turbine or pump according to claims 1 or 2, characterized in that the displacement body (5) is supported at the suction pipe 4 by rods 6.1, 6.2, 6.3.
- 25 4. Pump or turbine according to either one of claims 1 to 3, characterized in that the displacement body (5) is supported at the hub (3) of runner (1).
5. Pump or turbine according to either one of claims 1 to 4, characterized in that the displacement body (5) and the hub (1.3) of runner (1) are made of one single piece and are rotating together.
- 30 6. Turbine or pump according to either one of claims 1 to 3, characterized in that the suction pipe (4) is straight.

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7. Pump or turbine according to either one of claims 1 to 5, characterized in that the suction pipe (4) is bowed.

5 8. Pump or turbine according to either one of claims 1 to 7, characterized in that the displacement body (5) tapers in the direction of flow.

9. Pump or turbine according to either one of claims 1 to 7, characterized in that the displacement body (5) tapers against the direction of flow.

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